DRAFT

JOINT INTEROPERABILITY AND ENGINEERING ORGANIZATION

GCCS System Integration Support

Volume II

GCCS JOPES CORE DATABASE SITE SOFTWARE

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1.0 JOPES CORE DATABASE SITE CONFIGURATION

Sixteen sites have been designated as JOPES Core Database Sites. These sites will be configured with the Scheduling and Movement (S&M) Database and the GSORTS Database. Only these sites will have and maintain these databases. These sites are:

FORSCOM
ACC
AMC
CENTCOM
FORSCOM
HQDA
NMCC
PACAF
SOCOM
SOUTHCOM
TRANSCOM
USACOM
USAFE
USARPAC
USEUCOM
USFK (TAEGU).

This volume covers the installation of GCCS core functionality for a JOPES core database site only, and assumes the following site/hardware configurations:

- SPARCserver 1000/2000 Data Server with Internal Drives and Disk Arrays
- SPARCstation 20 with 4 GByte Disk (Designated as GCCS Core Applications Server)
- SPARCstation 20 with 4 GByte Disk (Designated as Mission Applications Server)
- SPARCstation 20 (Designated for AMHS #1)
- SPARCstation 20 (Designated for AMHS #2).

Section 2, “Installing GCCS at JOPES Core Database Sites,” provides step-by-step procedures for installing GCCS. Section 2 is divided into three major subsections. Section 2.1 covers the installation of the GCCS operating system and COE Kernel on a SPARCserver Database Server. Section 2.2 covers installation of the GCCS operating system and COE Kernel on a SPARCstation 20 designated as the Mission Application Server. Section 2.3 covers installation of the GCCS operating system and COE Kernel on a SPARCstation 20 designated as the GCCS Core Applications Server. Section 3 lists all of the GCCS segments and their corresponding platforms, and provides data about each segment.

2.0 INSTALLING GCCS AT THE JOPES CORE DATABASE SITES

2.1 SPARCserver Database Server

2.1.1 Installing Solaris 2.3/SUN OS 5.3 Operating System on SPARCserver Database Server. The following questions must be answered prior to the installation of the Solaris 2.3/SUN OS Operating System:

```
What is the host name for the host workstation? (8 characters
max)_____________________________________________________________
What is its Internet the Protocol (IP) address? _____________________
What are the netmasks used on this site LAN? _______________________
```

Follow these steps:

1) Insert the Solaris 2.3 CD (May 94 or later) into the system.

2) With the system powered up, press **<STOP> a.**

3) To ensure that the system boots from the correct drive after the operating system is installed, type the following at the `ok` prompt:

   `setenv boot-device disk3` <return>

This will change the boot disk to the partitioned boot drive used on most SUN SPARCstations. This corresponds to drive c0t3d0. If another drive is used to install the / and /usr partitions, the *disk3* value will have to be changed.

4) At the `ok` prompt type:

   `boot cdrom` <return>

5) After approximately 4 minutes, the Solaris OpenWindows logo screen appears, followed by the Solaris Install screen prompting the following questions:

   `Question: What is the host name for your workstation?`
   Answer: Type the name and press <return>. (Names can be a maximum of eight characters and can consist of letters, digits, or minus signs.)

   `Question: Will this system be connected to a network?`
   Answer: Use the <Arrow> keys to select the **`Yes`** option and press <return>.

   `Question: What is the primary network interface?`
   Answer: Use the <Arrow> keys to select the appropriate interface (on most GCCS-provided servers, it is *le0*).

`Question: What is your Internet Protocol (IP) address?`
Answer: Enter the IP address and press <return>.

`Question: Is the following information correct?`
Answer: If you entered the correct information above, use the <Arrow> keys to select **Yes, continue** and then press <return>.

`Question: Do you want to configure this system as a client of a name service? If so, which name service do you want to use? If you do not want to use a name service, select "none" and consult your install documentation.`
Answer: Use the <arrow> keys to select **None - use/etc Files.**

6) When prompted, answer the following questions as indicated:

`Question: Does this workstation's network have subnetworks?`
Answer: Use the <Arrow> keys to select **Yes** and press <return>. Enter the netmasks used on the site LAN and press <return>.

`Question: Are the naming services and subnetworks correct?`
Answer: If the network information is correct, use the <Arrow> keys to select **Yes, Continue** and press <return>.

`Question: What is the geographic region?`
Answer: Use the <Arrow> keys to select the geographic region and press <return>.

`Question: What is the time zone?`
Answer: Use the <Arrow> keys to select the site's time zone and press <return>.

`Question: What is the current date and time?`
Answer: Use the <Tab> key to move between the fields and to make appropriate changes and press <return>.

`Question: Are the date, time, and time zone correct?`
Answer: If correct, select **Yes, Continue** and press <return>.

7) Highlight (**Custom Install ...**) on the Solaris Installation screen and press <return>.

8) Highlight (**System Type ...**) on the Custom Install Configuration menu and press <return>.

9) Choose **Standalone**, tab to **APPLY** and press <return>.

10) Select (**Software Selection ...**) on the Custom Install Configuration Menu and press <return>.

11) Use the <Tab> key and the <Arrow> key to highlight appropriate software selection on the Default Software Configuration Menu (see notes below). Use the space bar to select it and press <return>. Tab to highlight **`APPLY`** and press <return>.

12) Select **`Entire Distribution`** (not OEM Support).

13) Select **`(Disks/File Systems ... )`** on the Custom Install Configuration Menu and press <return>. The system will list all the disk drives that are currently connected to the system.

14) Select each drive using the <Arrow> keys and press <return>. Select **`Configure Disk`** and press <return>. The following screen should appear after you select the first drive:

"Disk Editing Properties"

```
Initial Disk Configuration    [*Sun Defaults ]
                              [ Existing Slices ]
                              [ None ]
                              [Redo Current Initial Configuration ]
Size Editing Units:           [*Mbytes ]
                              [ Cylincders ]
                              [ Blocks ]
Allow Overlapping Slices?     [    ] No
Display Start/End Cylinders?  [    ] No
Provide Default Size Hints?   [ * ] Yes
```

NOTE: If you select "`Sun Defaults`," then */,/usr/opt*, and *swap* will be listed under the Mount Point column for each drive selected until they are assigned. Selecting "`NONE`" prevents this, speeding up the process slightly.

Something similar to the following will appear for each disk drive.

```
Configuring File Systems on Disk(c0t3d0) xxx are integers
Slice Mount Point Size(MBs)
0                    0
1                    0
2        backup      0           xxxx (xxx/xxx/xxx)
3                    0
4                    0
5                    0
6                    0
7                    0
```

CAUTION: Do not edit slice 2.

The SPARCserver disk configuration should match one of the configurations below.

At this point, enter the partition map information for the platform type, as indicated below:

SPARCserver 1000E with Four 1.1 GB Internal Drives and SPARCstorage Array(s).

NOTE: Select "1" on *load_patches* script.

Disk	Slice	Mount Point	Size (MBs)
c0t3d0	s0	/	100MB
	s1	swap	102MB
	s6	/usr	300MB
	s7	/var	499MB
c0t1d0	s0	/opt	602MB
	s1	swap	400MB
c0t2d0	s0	/mnt1	1MB
	s1	swap	1000MB
c0t0d0	s0	/mnt2	1MB
	s1	swap	1000MB

SPARCserver 1000 with Four Internal 510 MB drives and SPARCstorage Array(s)

NOTE: Select "1" on *load_patches* script.

Disk	Slice	Mount Point	Size (MBs)
c0t3d0	s0	/	100MB
	s1	swap	100MB
	s6	/usr	310MB
c0t1d0	s0	/var	510MB
c0t2d0	s5	/opt	510MB
c0t0d0	s0	/mnt1	1MB
	s1	swap	509MB

NOTE: Select "1" on *load_patches* script.

Disk	Slice	Mount Point	Size (MBs)	
c0t0d0	s0	/	100MB	
	s1	swap	900MB	(or whatever disk space remains)
	s5	/opt	900MB	
	s6	/usr	300MB	
	s7	/var	500MB	
c0t1d0	s0	/mnt1	1MB	
	s1	swap	2699MB	

15) After all disk drives have been partitioned, select **Done** from the Local Disks & File Systems menu and press <return>.

16) Select **Begin Install** from the Custom Install Configuration Menu and press <return>.

`Question: "Ready to start installation, continue?"`
Answer: Select **Continue with Install** and press <return>.

This process can take approximately 1 hour to 3 hours depending upon the number of drives being partitioned.

17) The system automatically reboots after the build is complete. After rebooting, a prompt for the root password will appear. Type the desired password and press <return>. The system will ask for verification. Retype the password and press <return>. Once this step is complete, the SUN Solaris Installation and disk partitioning is complete.

NOTE: Only the first eight characters are used for the password.

18) NeWSprint and Answerbook must be installed immediately after the operating system has been installed. If a site attempts to install these packages on an already functioning GCCS system, problems will occur. See the GCCS System Administration Manual, Sections 8 and 23, for installation instructions.

19) Install site-specific drivers, such as FDDI, at this point. (See Section 15.1 of the *GCCS System Administration Manual* for instructions.)

2.1.2 Installing the GCCS COE Kernel on the SPARCserver Database Server. The GCCS COE Kernel tape is divided into two parts. The first part of the tape determines the type and configuration of the system being built, and then extracts the appropriate scripts and Solaris 2.3 patches to build that system. It also sets up the /*etc*/*passwd,* /*etc*/*shadow,* and /*etc*/*group* files upgrade. The second part installs the GCCS accounts (*secman* and *sysadmin*) and the Executive Manager. It completes the network setup of the platform by setting up the /*etc*/*defaultrouter*, /*etc*/*resolv.conf*, and /*etc*/*nsswitch.conf* files. It sets up all system files (services, system, networks, etc.) required for a fully functional GCCS system. In addition, it configures the platform to use mail either as a mail server or client. The /*etc*/*hosts* file is also loaded with IP addresses of the database server, EM server, AMHS server, and mail server. This enables a fully functional GCCS suite of systems before the DNS server is active.

Loading Part 1 of the GCCS COE Kernel Tape.

1) Log in as *root* and prepare to take the system down to single user mode by entering the following sequence of commands:

```
# init s<return>
```

NOTE: The system will go through the boot process and will return with the following:

```
INIT: SINGLE USER MODE

Type Ctrl-d to proceed with normal startup
(or give root password for system maintenance): {root password}<return>
```

2) Load the GCCS Version 2.1 Kernel tape into a tape drive and enter the following:

```
# mount /tmp<return>
```

A. If the tape drive is attached to the system, execute the following:

```
# tar xvf /dev/rmt/{Enter the tape drive number.} m <return>
```

B. If the tape drive is attached to another SUNstation, execute the following: (The /.*rhosts* file on the remote SUN must have the name of the system being built in it.)

```
# rsh {enter remote host's name or IP address} dd if=/dev/rmt/0m bs=20b |tar
xvfB -
```

NOTE: The tape will take approximately 2 minutes to load.

---

3) Execute the following steps to load the appropriate Solaris 2.3 patches.

```
# cd /tmp/patch<return>
# ./load_patches<return>
```

4) The *load_patches* script will ask a series of questions to determine which patches should be loaded on the SPARCstation. These questions are:

```
A. SPARC platform?                                              __1___

B. Is this description correct?(y/n) [n]:                       __y___
```

The following questions may appear:

```
C. Is JDISS going to be installed at(y/n) this site?            __n___

D. Is this platform the JDISS License Manager?(y/n) [n]:        __n___

E. Enter the IP address of your JDISS License Manager Server:   ______

F. Is AMHS going to be installed at this site?(y/n) [n]:        __y___

G. Is this platform the AMHS Server? (y/n) [n]:                 __n___

H. Enter the IP address of your AMHS Server:                    ______
```

The following questions appear in all cases:

```
I. Is NeWSprint going to be installed on this platform?(y/n) [n]:  __n___

J. Do you wish to use Answerbook on this system?(y/n) [n]:         __n___

K. Will you be using FDDI on this system? (y/n) [n]:               __y___
```

(Drivers must be loaded prior to loading kernel).

5) At the end of the script is a notice stating that the script is about to load the Solaris 2.3 patches, followed by a "continue?" query. Answer **y** and press <return>. The patches will take approximately 40 minutes to load, after which the system will reboot itself.

NOTE: During the reboot, following the *load_patches* script, the following message will appear:

```
! No such user as sysadm - cron entries not created SUN Apr 30 22:30:22
1995
```

The date listed at the end of the above message will reflect the date of script execution. No action is currently required in response to this message.

Configuring the SUN SPARCstorage Array(s)

6) After the system has completed the reboot, log in as ***root***.

7) Load the Volume Manager CD and execute the following:

```
# cd /opt<return>
# ./vm_install<return>
```

Load all nine packages, but do not select more than one at a time! Watch the output carefully as the package is loaded to insure that the package loaded without error. The following is the dialog with questions that will be displayed:

```
In run state 3, continuing install

Updating SPARCstorage array fiber card firmware.
Loading FCode: soc.img.1.18
Probing /devices/io-unit@f,e0200000/sbi@0,0/sbusmem@0,0:slot0
Probing /devices/io-unit@f,e0200000/sbi@0,0/sbusmem@1,0:slot1
Probing /devices/io-unit@f,e0200000/sbi@0,0/sbusmem@2,0:slot2
Found a FC/S card in slot:
/devices/io-unit@f,e0200000/sbi@0,0/sbusmem@2,0:slot2
WARNING! WARNING! WARNING! WARNING! WARNING! WARNING! WARNING! WARNING!
If This program fails or the system crashes during download, your FC/S card
may become unusable.

Do you wish to continue? (y/n) y
Downloading FCode

Loading Volume Manager Software, system will be rebooted at the
completion of this process if all packages are successfully loaded

The following packages are available:
 1    SUNWassa       Using the SPARCstorage Array AnswerBook
       (all) 52.2.7
 2    SUNWdiagp      SPARCstorage Array Online Diagnostics Tool
       (sparc) 1.0,REV=1.0.1
 3    SUNWssadv      SPARCstorage Array Solaris 5.3 Drivers
       (sparc) 2.0
 4    SUNWssahd      SPARCstorage Array Solaris 5.3 Header Files
       (sparc) 2.0
 5    SUNWssamn      SPARCstorage Man Pages
       (sparc) 2.0,REV=1.0
 6    SUNWssaop      SPARCstorage Array Utility
       (sparc) 2.0,REV=1.0
 7    SUNWvmman      SPARCstorage Volume Manager (manual pages)
       (sparc) 2.0
 8    SUNWvxva       SPARCstorage Volume Manager Visual Administrator
       (sparc) 2.0
 9    SUNWvxvm       SPARCstorage Volume Manager
       (sparc) 2.0
```

```
Select package(s) you wish to process (or 'all' to process
all packages).  (default: all) [?,??,q]: 1<return>
```

NOTE: Load all nine packages, but do not select more than one at a time! Watch the output carefully as the package is loaded to ensure that the package loaded without error. You will see the following:

```
Installation of <SUNWASSA> was successful.
```

The installation options are as follows:

```
Option: Description:
-------------------------------------------
1.  nil: less than 1 Megabyte disk space required [slowest performance].
2.  heavy:  12.31 Megabytes disk space required [best performance].

Note: If the install option which you choose below fails due to lack of
space, try another location, or choose a lower install option number.

Enter the number of an installation option from the list above (1 or 2).

Select an installation option: 2<return>

Installation option: heavy selected.

The next request for input asks you to specify the parent directory of
AnswerBook
Make sure to choose a parent directory on a file system big enough to
accommodate all the files to be moved for the INSTALL OPTION you selected.


Specify the parent of the AnswerBook home directory: /opt<return>

 For the heavy option all files will be placed under /opt/SUNWassa.


This package contains scripts which will be executed with super-user
permission during the process of installing this package.

Do you want to continue with the installation of this package [y,n,?]
y<return>

Installation of <SUNWassa> was successful.


Select package(s) you wish to process (or 'all' to process
all packages).  (default: all) [?,??,q]: 2<return>

The following files are already installed on the system and are being
used by another package:
 /opt/SUNWdiag/bin/plntest

Do you want to install these conflicting files [y,n,?,q] y<return>
```

```
## Checking for setuid/setgid programs.

This package contains scripts which will be executed with super-user
permission during the process of installing this package.

Do you want to continue with the installation of this package [y,n,?]
y<return>

Installation of <SUNWdiagp> was successful.

Select package(s) you wish to process (or 'all' to process
all packages).  (default: all) [?,??,q]: 3<return>

This package contains scripts which will be executed with super-user
permission during the process of installing this package.

Do you want to continue with the installation of this package [y,n,?]
y<return>

Installation of <SUNWssadv> was successful.


Select package(s) you wish to process (or 'all' to process
all packages).  (default: all) [?,??,q]: 4<return>

Installation of <SUNWssahd> was successful.


Select package(s) you wish to process (or 'all' to process
all packages).  (default: all) [?,??,q]: 5<return>

Installation of <SUNWssamn> was successful.


Select package(s) you wish to process (or 'all' to process
all packages).  (default: all) [?,??,q]: 6 <return>

Installation of <SUNWssaop> was successful.


Select package(s) you wish to process (or 'all' to process
all packages).  (default: all) [?,??,q]: 7<return>

Installation of <SUNWvmman> was successful.


Select package(s) you wish to process (or 'all' to process
all packages).  (default: all) [?,??,q]: 8<return>

WARNING:
 The <SUNWvxvm> package "SPARCstorage Volume Manager" is
 a prerequisite package and should be installed.
```

```
Do you want to continue with the installation of this package [y,n,?]
y<return>

This package contains scripts which will be executed with super-user
permission during the process of installing this package.

Do you want to continue with the installation of this package [y,n,?]
y<return>

Installation of <SUNWvxva> was successful.


Select package(s) you wish to process (or 'all' to process
all packages).  (default: all) [?,??,q]: 9<return>

The following files are being installed with setuid and/or setgid
permissions or are overwriting files which are currently
setuid/setgid:
 /usr/sbin/vxprint <setuid root>

Do you want to install these setuid/setgid files [y,n,?,q] y<return>

This package contains scripts which will be executed with super-user
permission during the process of installing this package.

Do you want to continue with the installation of this package [y,n,?]
y<return>
```

8) After all nine packages have been loaded, select **q** to quit. The *vm_install* script will then load a Volume Manager software patch and reboot the system.

9) Log in as *root* and execute the following:

```
# cd /opt/array<return>
# ./format_all<return>
```

This script will format all disk drives not defined in */etc/vfstab*. It is non-interactive and takes approximately 2 hours and 10 minutes to complete. Prior to formatting the drives, it will modify the firmware of the fiber card to ensure compatibility with Solaris 2.3. At the completion of the disk format, it will download new firmware to the SPARCstorage arrays.

10) After the *format_all* script has completed, shut the system down by executing the following:

```
# init 0<return>
```

11) After the system has shut down to the `ok` prompt, cycle the power for the SPARCstorage arrays off then on. This action forces the new firmware to load.

12) After cycling the power, wait for the drives to come on-line in the LCD. When all drives are on-line, at the `ok` prompt type:

```
boot -r<return>
```

13) Log in as **root** and execute the following:

```
# vxinstall<return>
```

NOTE: VxVM uses license keys to control access. If there is a SPARCstorage Array (SSA) controller attached to the system, then VxVM will grant the site a limited-use license automatically. The SSA license grants the site unrestricted use of disks attached to an SSA controller, but disallows striping and RAID-5 on non-SSA disks. If the site is not running a SPARCstorage Array controller, then it must obtain a license key to operate. Following is a dialog-based interactive script which takes 20 minutes to complete. User inputs are in boldface. After the first system reboot, Volume Manager will take approximately 10 minutes to assume control of the disks, then reboot the system again.

```
Licensing information:
System host ID: 80741ce1
Host type: SUNW,SPARCserver-1000
SPARCstorage Array: Attached (no license required)

Do you wish to enter a license key [y,n,q,?] (default: n) n<return>
Generating list of attached controllers....

Volume Manager Installation
Menu: VolumeManager/Install
```

The Volume Manager names disks on your system using the controller and disk number of the disk, substituting them into the following pattern:

```
c<controller>t<disk>d<disk>
```

Some examples would be:

```
c0t0d0   - first controller, first target, first disk
c1t0d0   - second controller, first target, first disk
c1t1d0   - second controller, second target, first disk

The Volume Manager has detected the following controllers on your
system:

c0: io-unit@f,e0200000/sbi@0,0/dma@0,81000/esp@0,80000
c1:
io-unit@f,e0200000/sbi@0,0/SUNW,soc@2,0/SUNW,pln@a0000000,00722e39
c2:
io-unit@f,e0200000/sbi@0,0/SUNW,soc@3,0/SUNW,pln@a0000000,0072208e
```

```
Hit RETURN  to continue.<return>

Volume Manager Installation
Menu: VolumeManager/Install

You will now be asked if you wish to use Quick Installation or
Custom Installation.  Custom Installation allows you to select how
the volume manager will handle the installation of each disk
attached to your system.

Quick Installation examines each disk attached to your system and
attempts to create volumes to cover all disk partitions that might
be used for file systems or for other similar purposes.

If you do not wish to use some disks with the volume manager, or if
you wish to reinitialize some disks, use the Custom Installation
option.  Otherwise, we suggest that you use the Quick Installation
option.
Hit RETURN to continue.<return>

Volume Manager Installation Options
Menu: VolumeManager/Install

 1    Quick Installation
 2    Custom Installation

 ?    Display help about menu
 ??   Display help about the menuing system
 q    Exit from menus

Select an operation to perform: 1<return>


Volume Manager Quick Installation
Menu: VolumeManager/Install/QuickInstall

The c0t3d0 disk is your Boot Disk.  You can not add it as a new
disk.  If you encapsulate it, you will make your root filesystem
and other system areas on the Boot Disk into volumes.  This is
required if you wish to mirror your root filesystem or system
swap area.

Encapsulate Boot Disk [y,n,q,?] (default: n) y<return>

Enter disk name for c0t3d0 [<name>,q,?] (default: rootdisk) <return>

 The c0t3d0 disk has been configured for encapsulation.

Hit RETURN to continue.<return>

Volume Manager Quick Installation
Menu: VolumeManager/Install/QuickInstall/c0
Generating list of attached disks on c0....
```

```
<excluding root disk c0t3d0>

The Volume Manager has detected the following disks on controller c0:

      c0t0d0
      c0t1d0
      c0t2d0

Hit RETURN to continue.<return>

Volume Manager Quick Installation For Controller c0
Menu: VolumeManager/Install/QuickInstall/c0
Initialize all disks on this controller ? (destroys data on these disks)
[y,n,q,?] (default: n) n<return>

Volume Manager will now try to encapsulate all the disks on this
controller.
Disks not having valid partitions will be initialized.
Hit RETURN to continue.<return>


Volume Manager Quick Installation
Menu: VolumeManager/Install/QuickInstall/c0/Encap

Use default disk names for these disks ? [y,n,q,?] (default: y)<return>

The c0t0d0 disk will be given disk name disk01

The c0t0d0 disk appears to be empty.  Adding as a new disk.

The c0t1d0 disk will be given disk name disk02

It is not possible to encapsulate c0t1d0, for the following reason:
 <vxvm:vxslicer: ERROR: Unsupported disk layout.>

The c0t2d0 disk will be given disk name disk02
The c0t0d0 disk appears to be empty.  Adding as a new disk.

The c0t1d0 disk will be given disk name disk02
The c0t0d0 disk appears to be empty.  Adding as a new disk.

The c0t1d0 disk will be given disk name disk02

The c0t2d0 disk has been configured for encapsulation.

Hit RETURN to continue.<return>

Volume Manager Quick Installation
Menu: VolumeManager/Install/QuickInstall/c1
Generating list of attached disks on c1....

<excluding c1t5d4>

The Volume Manager has detected the following disks on controller c1:
```

```
      c1t0d0
      c1t0d1
      c1t0d2
      c1t0d3
      c1t0d4
      c1t1d0
      c1t1d1
      c1t1d2
      c1t1d3
      c1t1d4
      c1t2d0
      c1t2d1
      c1t2d2
      c1t2d3
      c1t2d4
      c1t3d0
      c1t3d1
      c1t3d2
      c1t3d3
      c1t3d4
      c1t4d0
      c1t4d1
      c1t4d2
      c1t4d3
      c1t4d4
      c1t5d0
      c1t5d1
      c1t5d2
      c1t5d3

Hit RETURN to continue.<return>

Volume Manager Quick Installation For Controller c1
Menu: VolumeManager/Install/QuickInstall/c1

Initialize all disks on this controller ? (destroys data on these disks)
[y,n,q,?] (default: n) y<return>

Volume Manager will now try to encapsulate all the disks on this
controller.
Disks not having valid partitions will be initialized.
Hit RETURN to continue.<return>


Volume Manager Quick Installation
Menu: VolumeManager/Install/QuickInstall/c1/Encap

Use default disk names for these disks ? [y,n,q,?] (default: y)
y<return>
The c1t0d0 disk will be given disk name disk03

The c1t0d0 disk appears to be empty.  Adding as a new disk.

The c1t0d1 disk will be given disk name disk04
```

```
The c1t0d1 disk appears to be empty.  Adding as a new disk.
The c1t0d2 disk will be given disk name disk05
The c1t0d2 disk appears to be empty.  Adding as a new disk.
The c1t0d3 disk will be given disk name disk06
The c1t0d3 disk appears to be empty.  Adding as a new disk.
The c1t0d4 disk will be given disk name disk07
The c1t0d4 disk appears to be empty.  Adding as a new disk.
The c1t1d0 disk will be given disk name disk08
The c1t1d0 disk appears to be empty.  Adding as a new disk.
The c1t1d1 disk will be given disk name disk09
The c1t1d1 disk appears to be empty.  Adding as a new disk.
The c1t1d2 disk will be given disk name disk10
The c1t1d2 disk appears to be empty.  Adding as a new disk.
The c1t1d3 disk will be given disk name disk11
The c1t1d3 disk appears to be empty.  Adding as a new disk.
The c1t1d4 disk will be given disk name disk12
The c1t1d4 disk appears to be empty.  Adding as a new disk.
The c1t2d0 disk will be given disk name disk13
The c1t2d0 disk appears to be empty.  Adding as a new disk.
The c1t2d1 disk will be given disk name disk14
The c1t2d1 disk appears to be empty.  Adding as a new disk.
The c1t2d2 disk will be given disk name disk15
The c1t2d2 disk appears to be empty.  Adding as a new disk.
The c1t2d3 disk will be given disk name disk16
The c1t2d3 disk appears to be empty.  Adding as a new disk.
The c1t2d4 disk will be given disk name disk17
The c1t2d4 disk appears to be empty.  Adding as a new disk.
```

```
The c1t3d0 disk will be given disk name disk18

The c1t3d0 disk appears to be empty.  Adding as a new disk.

The c1t3d1 disk will be given disk name disk19

The c1t3d1 disk appears to be empty.  Adding as a new disk.

The c1t3d2 disk will be given disk name disk20

The c1t3d2 disk appears to be empty.  Adding as a new disk.

The c1t3d3 disk will be given disk name disk21

The c1t3d3 disk appears to be empty.  Adding as a new disk.

The c1t3d4 disk will be given disk name disk22

The c1t3d4 disk appears to be empty.  Adding as a new disk.

The c1t4d0 disk will be given disk name disk23

The c1t4d0 disk appears to be empty.  Adding as a new disk.

The c1t4d1 disk will be given disk name disk24

The c1t4d1 disk appears to be empty.  Adding as a new disk.

The c1t4d2 disk will be given disk name disk25

The c1t4d2 disk appears to be empty.  Adding as a new disk.

The c1t4d3 disk will be given disk name disk26

The c1t4d3 disk appears to be empty.  Adding as a new disk.

The c1t4d4 disk will be given disk name disk27

The c1t4d4 disk appears to be empty.  Adding as a new disk.

The c1t5d0 disk will be given disk name disk28

The c1t5d0 disk appears to be empty.  Adding as a new disk.

The c1t5d1 disk will be given disk name disk29

The c1t5d1 disk appears to be empty.  Adding as a new disk.

The c1t5d2 disk will be given disk name disk30

The c1t5d2 disk appears to be empty.  Adding as a new disk.

The c1t5d3 disk will be given disk name disk31
```

```
The c1t5d3 disk appears to be empty.  Adding as a new disk.

Hit RETURN to continue.<return>

Volume Manager Quick Installation
Menu: VolumeManager/Install/QuickInstall/c2
Generating list of attached disks on c2....


The Volume Manager has detected the following disks on controller c2:

      c2t0d0
      c2t0d1
      c2t0d2
      c2t0d3
      c2t0d4
      c2t1d0
      c2t1d1
      c2t1d2
      c2t1d3
      c2t1d4
      c2t2d0
      c2t2d1
      c2t2d2
      c2t2d3
      c2t2d4
      c2t3d0
      c2t3d1
      c2t3d2
      c2t3d3
      c2t3d4
      c2t4d0
      c2t4d1
      c2t4d2
      c2t4d3
      c2t4d4
      c2t5d0
      c2t5d1
      c2t5d2
      c2t5d3
      c2t5d4

Hit RETURN to continue.<return>

Volume Manager Quick Installation For Controller c2
Menu: VolumeManager/Install/QuickInstall/c2

Initialize all disks on this controller ? (destroys data on these disks)
[y,n,q,?] (default: n) y<return>


Are you sure ? (destroys data on these disks)
[y,n,q,?] (default: n) y<return>
```

```
Volume Manager will now initialize all the disks on this controller
including disks having valid partitions.
Hit RETURN to continue.

Volume Manager Quick Installation
Menu: VolumeManager/Install/QuickInstall/c2/Init

Use default disk names for these disks ? [y,n,q,?] (default: y)
y<return>

 The c2t0d0 disk will be given disk name disk32

 The c2t0d1 disk will be given disk name disk33

 The c2t0d2 disk will be given disk name disk34

 The c2t0d3 disk will be given disk name disk35

 The c2t0d4 disk will be given disk name disk36

 The c2t1d0 disk will be given disk name disk37

 The c2t1d1 disk will be given disk name disk38

 The c2t1d2 disk will be given disk name disk39

 The c2t1d3 disk will be given disk name disk40

 The c2t1d4 disk will be given disk name disk41

 The c2t2d0 disk will be given disk name disk42

 The c2t2d1 disk will be given disk name disk43

 The c2t2d2 disk will be given disk name disk44

 The c2t2d3 disk will be given disk name disk45

 The c2t2d4 disk will be given disk name disk46

 The c2t3d0 disk will be given disk name disk47

 The c2t3d1 disk will be given disk name disk48

 The c2t3d2 disk will be given disk name disk49

 The c2t3d3 disk will be given disk name disk50

 The c2t3d4 disk will be given disk name disk51

 The c2t4d0 disk will be given disk name disk52

 The c2t4d1 disk will be given disk name disk53
```

```
 The c2t4d2 disk will be given disk name disk54

 The c2t4d3 disk will be given disk name disk55

 The c2t4d4 disk will be given disk name disk56

 The c2t5d0 disk will be given disk name disk57

 The c2t5d1 disk will be given disk name disk58

 The c2t5d2 disk will be given disk name disk59

 The c2t5d3 disk will be given disk name disk60

 The c2t5d4 disk will be given disk name disk61

Hit RETURN to continue.<return>

Volume Manager Quick Installation
Menu: VolumeManager/Install/QuickInstall

 The following is a summary of your choices.

      c0t0d0   New Disk
      c0t2d0   Encapsulate
      c0t3d0   Encapsulate
      c1t0d0   New Disk
      c1t0d1   New Disk
      c1t0d2   New Disk
      c1t0d3   New Disk
      c1t0d4   New Disk
      c1t1d0   New Disk
      c1t1d1   New Disk
      c1t1d2   New Disk
      c1t1d3   New Disk
      c1t1d4   New Disk
      c1t2d0   New Disk
      c1t2d1   New Disk
      c1t2d2   New Disk
      c1t2d3   New Disk
      c1t2d4   New Disk
      c1t3d0   New Disk
      c1t3d1   New Disk
      c1t3d2   New Disk
      c1t3d3   New Disk
      c1t3d4   New Disk
      c1t4d0   New Disk
      c1t4d1   New Disk
      c1t4d2   New Disk
      c1t4d3   New Disk
      c1t4d4   New Disk
      c1t5d0   New Disk
      c1t5d1   New Disk
      c1t5d2   New Disk
```

```
      c1t5d3   New Disk
      c2t0d0   New Disk
      c2t0d1   New Disk
      c2t0d2   New Disk
      c2t0d3   New Disk
      c2t0d4   New Disk
      c2t1d0   New Disk
      c2t1d1   New Disk
      c2t1d2   New Disk
      c2t1d3   New Disk
      c2t1d4   New Disk
      c2t2d0   New Disk
      c2t2d1   New Disk
      c2t2d2   New Disk
      c2t2d3   New Disk
      c2t2d4   New Disk
      c2t3d0   New Disk
      c2t3d1   New Disk
      c2t3d2   New Disk
      c2t3d3   New Disk
      c2t3d4   New Disk
      c2t4d0   New Disk
      c2t4d1   New Disk
      c2t4d2   New Disk
      c2t4d3   New Disk
      c2t4d4   New Disk
      c2t5d0   New Disk
:<space>
      c2t5d1   New Disk
      c2t5d2   New Disk
      c2t5d3   New Disk
      c2t5d4   New Disk

(EOF):

Is this correct [y,n,q,?] (default: y) y<return>

      The system now must be shut down and rebooted in order to continue
      the reconfiguration.

Shutdown and reboot now [y,n,q,?] (default: n) y<return>
```

14) Log in as *root* and execute the following:

```
# cd /opt/array<return>
# ./mk_oracle_group<return>
```

This script will create the volumes (virtual partitions) and the associated file systems required by GCCS. At the completion of this script, all file systems will be mounted. This non-interactive script takes approximately 2 hours and 30 minutes to complete.

15) To verify that the *mk_oracle_group* script was successful, log in as *root* and execute the following:

```
# df -k<return>
```

Table 2-1 shows the array partition map for the SPARCstorage system . The actual kilobyte counts may vary slightly. The numbers in the "kbytes" column should be close. The numbers under "used," "available," and "capacity" will vary.

Table 2-1. SPARCserver 1000/2000 with Only SPARCstorage Array(s) (30 x 1.1GB drives)

Filesystem	kbytes	used	avail	capacity	Mounted on
/dev/vx/dsk/rootvol	96455	13623	73192	16%	/
/dev/vx/dsk/usr	288391	162638	96923	63%	/usr
/proc	0	0	0	0%	/proc
fd	0	0	0	0%	/dev/fd
/dev/vx/dsk/var	479807	19476	412351	5%	/var
swap	190900	48	1908952	0%	/tmp
/dev/dsk/c0t1d0s5	576782	651312	453980	13%	/opt
/dev/vx/dsk/oracledg/vol04	480222	9	432193	0%	/security1
/dev/vx/dsk/oracledg/vol05	480222	9	432193	0%	/security2
/dev/vx/dsk/oracledg/vol06	1921704	9	1729525	0%	/oracle/smback
/dev/vx/dsk/oracledg/vol03	1921704	9	1729525	0%	/home2
/dev/vx/dsk/oracledg/vol02	3843680	10	3459310	0%	/h
/dev/vx/dsk/oracledg/vol07	1921704	9	1729525	0%	/h/USERS
/dev/vx/dsk/oracledg/vol01	17296489	9	15566840	0%	/home10

16) When building an ORACLE database server with only SPARCstorage arrays attached,and more than two 30 x 1.1 GB SPARCstorage arrays are attached, a second script *mk_oracle_group.2* has been provided. This script will create two volumes on the third array (/*home20* and /*home30*) and use the fourth array, if available, to mirror the third.

Loading Part 2 of the GCCS COE Kernel

17) Execute the following to complete the installation of the GCCS COE Kernel:

```
# cd /opt<return>
```

(If it is attached to another Sun platform, skip to Step 19.)

18) If the tape drive is attached to the system, execute the following:

```
# ./kernel_load_local {Enter the tape drive number} <return>
```

19) If the tape drive is attached to another SUN platform, execute the following:

```
# ./kernel_load_remote {Enter remote host's IP address} {Enter the tape drive
number}
```

The remaining portion of the Kernel will now be loaded. This will take approximately 5 minutes.

20) Execute the following steps to complete the installation of the GCCS COE Kernel:

```
# cd /tmp/kernel<return>

# ./gccs_kernel {Number of tape drive from which segments will be loaded}
<return>
```

NOTE: A number must be specified even if no tape drive is locally attached.

21) The *gccs_kernel* script will ask approximately a dozen questions as shown below. Some questions may not appear if the site's answers vary from the defaults. Answer each question when it appears. At the end of the script, the system will reboot itself.

Some of the questions may not appear, depending upon how the previous question was answered.

```
A. Enter the IP address of the default router for
   the GCCS network:                                                    _____
B. Is DNS being used at your site? (y/n) [y]:                           _____
C. Enter the DNS domain name of your site:                              _____
D. Enter the IP address of your sites primary
   DNS server:                                                          _____
E. Is the system you are building the primary
   DNS server? (y/n) [n]:                                               _____
F. Do you wish to load the template DNS tables into /var/nameserver?
   (y/n) [n]:                                                           _____
```

```
G. Is DNS server up? (y/n) [n]:                                    ______
H. Is this the mail server for GCCS? (y/n) [n]:                    ______
I. What is the IP address of your mail server?:                    ______
J. Is this platform the ORACLE Database Server? (y/n) [n]:         __y___
   (where users accounts will be stored)
K. What is the IP address of your ORACLE Database Server?          ______
L. Is this platform the Sybase Database Server? (y/n) [n]:         __n___
M. Is this platform the EM server? (y/n) [n]:                      __n___
N. Enter the broadcast address of the EM server:                   ______
      (Obtained when building EM server or in
      /etc/inet/networks file on EM server.)
O. What is the IP address of your EM server?:                      ______
P. Is JDISS going to be installed at this site? (y/n) [n]:         ______
Q. Is this platform the JDISS License Manager server? (y/n) [n]:   __n___
R. Enter the IP address of your JDISS License Manager:             ______
S. Is AMHS going to be installed at this site? (y/n) [n]:          __y___
T. Is this platform the AMHS server? (y/n) [n]:                    __n___
U. Enter the IP address of your AMHS server:                       ______
V. Is this platform going to be a Segment Installation Server?
      (y/n) [n]:                                                   ______
```

22) Log in as *root* and change passwords for *sysadmin* and *secman*.

```
# passwd sysadmin
```
Enter new password.

```
# passwd secman
```
Enter new password.

When the system comes up, the standard GCCS globe and log-in prompt will appear. At this time the SPARC 20 that is the EM Server is to be installed. Perform the following if this platform is the EM server:

1) Log in as *root*, using the appropriate password.

2) Execute the following:

`Cd /h/EM/systools` <return>

`./EM_Make_server` <return>

2.2 The SPARCstation 20 Designated as Mission Applications Server

2.2.1 Installing Solaris 2.3/SUN OS 5.3 Operating System on the SPARCstation 20 (Designated as Mission Applications Server). The following questions must be answered prior to the installation of the Solaris 2.3/SUN OS Operating System:

```
What is the host name for the host workstation? (8 characters max) _____
What is its Internet the Protocol (IP) address?                    _____
What are the netmasks used on this site LAN?                       _____
```

Follow these steps:

1) Insert the Solaris 2.3 CD (May 94 or later) into the system.

2) With the system powered up, press **<STOP> a.**

3) To ensure that the system boots from the correct drive after the operating system is installed, at the `ok` prompt type:

   `setenv boot-device disk3`<return>

   This will change the boot disk to the partitioned boot drive used on most SUN SPARCstations. This corresponds to drive c0t3d0. If another drive is used to install the / and /usr partitions, the **disk3** value will have to be changed.

4) At the **`ok`** prompt type:

   `boot cdrom`<return>

5) After approximately 4 minutes the Solaris OpenWindows logo screen appears, followed by the Solaris Install screen prompting the following questions:

   `Question:` `What is the host name for your workstation?`
   Answer: Type the name and press <return>. (Names can be a maximum of eight characters and can consist of letters, digits, or minus signs.)

   `Question:` `Will this system be connected to a network?`
   Answer: Use the <Arrow> keys to Select the **`Yes`** option and press <return>.

   `Question:` `What is the primary network interface?`
   Answer: Use the <Arrow> keys to select the appropriate interface (on most GCCS-provided servers, it is **`le0`**).

   `Question:` `What is your Internet Protocol (IP) address?`
   Answer: Enter the IP address and press <return>.

`Question:` `Is the following information correct?`
Answer: If you entered the correct information above, use the <Arrow> keys to select **`Yes, continue`** and then press <return>.

`Question:` `Do you want to configure this system as a client of a name service? If so, which name service do you want to use? If you do not want to use a name service, select "none" and consult your install documentation.`
Answer: Use the <Arrow> keys to select **`None - use/etc Files.`**

6) When prompted, answer the following questions as indicated:

`Question:` `Does this workstation's network have subnetworks?`
Answer: Use the <Arrow> keys to select **`Yes`** and press <return>. Enter the netmasks used on the site LAN and press <return>.

`Question:` `Are the naming services and subnetworks correct?`
Answer: If the network information is correct, use the <Arrow> keys to select **`Yes, Continue`** and press <return>.

`Question:` `What is the geographic region?`
Answer: Use the <Arrow> keys to select the geographic region and press <return>.

`Question:` `What is the time zone?`
Answer: Use the <Arrow> keys to select the site's time zone and press <return>.

`Question:` `What is the current date and time?`
Answer: Use the <Tab> key to move between the fields and to make appropriate changes and press <return>.

`Question:` `Are the date, time, and time zone correct?`
Answer: If correct, select **`Yes, Continue`** and press <return>.

7) Highlight (**`Custom Install ...`**) on the Solaris Installation screen and press <return>.

8) Highlight (**`System Type ...`**) on the Custom Install Configuration menu and press <return>.

9) Choose **`Standalone`**, tab to **`APPLY`** and press <return>.

10) Select (**`Software Selection ...`**) on the Custom Install Configuration Menu and press <return>.

11) Use the <Tab> key and the <Arrow> key to highlight appropriate software selection on the Default Software Configuration Menu (see notes below). Use the space bar to select it and press <return>. Tab to highlight **`APPLY`** and press <return>.

12) Select **`Entire Distribution`** (not OEM Support).

13) Select **`(Disks/File Systems ... )`** on the Custom Install Configuration Menu and press <return>. The system will list all the disk drives that are currently connected to the system.

14) Select each drive using the <Arrow> keys and press <return>. Select **`Configure Disk`** and press <return>. The following screen should appear after you select the first drive:

"Disk Editing Properties"

```
Initial Disk Configuration    [*Sun Defaults ]
                              [ Existing Slices ]
                              [ None ]
                              [Redo Current Initial Configuration ]
Size Editing Units:           [*Mbytes ]
                              [ Cylincders ]
                              [ Blocks ]
Allow Overlapping Slices?     [    ] No
Display Start/End Cylinders?  [    ] No
Provide Default Size Hints?   [ *  ] Yes
```

NOTE: If you select "Sun Defaults," then */,/usr/opt*, and *swap* will be listed under the Mount Point column for each drive selected until they are assigned. Selecting "NONE" prevents this, speeding up the process slightly.

Something similar to the following will appear for each disk drive.

```
Configuring File Systems on Disk(c0t3d0) xxx are integers
   Slice Mount Point Size(MBs)
   0                    0
   1                    0
   2        backup      0              xxxx (xxx/xxx/xxx)
   3                    0
   4                    0
   5                    0
   6                    0
   7                    0
```

CAUTION: Do not edit slice 2.

The SPARCstation disk configuration should match one of the configurations below.

At this point, enter the partition map information for the platform type, as indicated below:

SPARCstation 20 with Two 2.1 GB Drives (Sybase Server)

Sybase Server

Disk	Slice	Mount Point	Size (MBs)	
c0t3d0	s0	/	80MB	
	s1	swap	200MB	
	s3	/sec1	1MB	
	s4	/sec2	1MB	
	s5	/opt	85MB	
	s6	/usr	235MB	
	s7	/h	1424MB	(or whatever disk space remains)
c0t0d0	s0	/home1	1623MB	(or whatever disk space remains)
	s1	swap	178MB	
	s3		17MB	
	s4		10MB	
	s5		100MB	
	s6		100MB	

15) After all disk drives have been partitioned, select **Done** from the Local Disks & File Systems menu and press <return>.

16) Select **Begin Install** from the Custom Install Configuration Menu and press <return>.

Question: "Ready to start installation, continue?"
Answer: Select **Continue with Install** and press <return>.

This process can take approximately 1 hour to 3 hours depending upon the number of drives being partitioned.

17) The system automatically reboots after the build is complete. After rebooting, a prompt for the root password will appear. Type the desired password and press <return>. The system will ask for verification. Retype the password and press <return>. Once this step is complete, the SUN Solaris Installation and disk partitioning is complete.

NOTE: Only the first eight characters are used for the password.

---

18) NeWSprint and Answerbook must be installed immediately after the operating system has been installed. If a site attempts to install these packages on an already functioning GCCS system,

problems will occur. See the GCCS System Administration Manual, Sections 8 and 23, for installation instructions.

19) Install site-specific drivers, such as FDDI, at this point. (See Section 15.1 of the *GCCS System Administration Manual* for instructions.)

2.2.2 Installing the GCCS COE Kernel on the SPARCstation 20 (Designated as Mission Applications Server). The GCCS COE Kernel tape is divided into two parts. The first part of the tape determines the type and configuration of the system being built, and then extracts the appropriate scripts and Solaris 2.3 patches to build that system. It also sets up the */etc*/*passwd*, /*etc*/*shadow*, and /*etc*/*group* files upgrade. The second part installs the GCCS accounts (*secman* and *sysadmin*) and the Executive Manager. It completes the network setup of the platform by setting up the /*etc*/*defaultrouter*, /*etc*/*resolv.conf*, and /*etc*/*nsswitch.conf* files. It sets up all system files (services, system, networks, etc.) required for a fully functional GCCS system. In addition, it configures the platform to use mail either as a mail server or client. The /*etc*/*hosts* file is also loaded with IP addresses of the database server, EM server, AMHS server, and mail server. This enables a fully functional GCCS suite of systems before the DNS server is active.

Loading Part 1 of the GCCS COE Kernel Tape

1) Log in as *root* and prepare to take the system down to single user mode by entering the following sequence of commands:

init s<return>

NOTE: The system will go through the boot process and will return with the following:

```
INIT: SINGLE USER MODE
```

Type **Ctrl-d** to proceed with normal startup
(or give root password for system maintenance): {*root password*}<return>

2) Load the GCCS Version 2.1 Kernel tape into a tape drive and enter the following:

mount /tmp<return>

A. If the tape drive is attached to the system, execute the following:

tar xvf /dev/rmt/{Enter the tape drive number.} **m** <return>

B. If the tape drive is attached to another SUNstation, execute the following (the /.*rhosts* file on the remote SUN must have the name of the system being built in it):

 # rsh {Enter remote host's name or IP address} dd if=/dev/rmt/0m bs=20b | tar xvfB -

NOTE: The tape will take approximately 2 minutes to load.

3) Execute the following steps to load the appropriate Solaris 2.3 patches.

```
# cd /tmp/patch<return>
# ./load_patches<return>
```

4) The *load_patches* script will ask a series of questions to determine which patches should be loaded on the SPARCstation. These questions are:

```
A. SPARC platform?                                              __5___

B. Is this description correct?(y/n) [n]:                       __y___
```

The following questions may appear:

```
C. Is JDISS going to be installed at this site? (y/n) [n]:      _____

D. Is this platform the JDISS License Manager? (y/n) [n]:       __n___

E. Enter the IP address of your JDISS License Manager Server:   _____

F. Is AMHS going to be installed at this site? (y/n) [n]:       __n___

G. Is this platform the AMHS Server?(y/n) [n]:                  __n___

H. Enter the IP address of your AMHS Server:                    _____
```

The following questions appear in all cases:

```
I. Is NeWSprint going to be installed on this
   platform?(y/n) [n]:                                          _____

J. Do you wish to use Answerbook on this system?
   (y/n) [n]:                                                   _____

K. Will you be using FDDI on this system?(y/n) [n]:             __y___
```

(Drivers must be loaded prior to loading kernel.)

5) At the end of the script is a notice stating that the script is about to load the Solaris 2.3 patches, following by a "continue?" query. Answer **y** and press <return>. The patches will take approximately 40 minutes to load, after which the system will reboot itself.

NOTE: During the reboot, following the *load_patches* script, the following message will appear:

```
! No such user as sysadm - cron entries not created SUN Apr 30
22:30:22 1995
```

The date listed at the end of the above message will reflect the date of script execution. No action is currently required in response to this message.

Loading Part 2 of the GCCS COE Kernel

6) Execute the following to complete the installation of the GCCS COE Kernel:

cd /opt<return>

A. If the tape drive is attached to the system, execute the following:

./kernel_load_local {Enter the tape drive number} <return>

B. If the tape drive is attached to another SUN platform, execute the following:

./kernel_load_remote {Enter remote host's IP address} {Enter tape drive number}

The remaining portion of the Kernel will now be loaded. This will take approximately 5 minutes.

7) Execute the following steps to complete the installation of the GCCS COE Kernel:

cd /tmp/kernel<return>

./gccs_kernel {Enter the tape drive number}<return>

NOTE: A number must be specified even if no tape drive is locally attached.

8) The *gccs_kernel* script will ask approximately a dozen questions as shown below. Some questions may not appear if the site's answers vary from the defaults. Answer each question when it appears. At the end of the script, the system will reboot itself.

Some of the questions may not appear, depending upon how the previous question was answered.

```
A. Enter the IP address of the default router for the
   GCCS network:                                          _____
B. Is DNS being used at your site? (y/n) [y]:             _____
```

```
C. Enter the DNS domain name of your site:                          ______
D. Enter the IP address of your sites primary DNS server:           ______
E. Is the system you are building the primary DNS server?
   (y/n) [n]:                                                       ______
F. Do you wish to load the template DNS tables into
   /var/nameserver? (y/n) [n]:                                      ______
G. Is DNS server up? (y/n) [n]:                                     ______
H. Is this the mail server for GCCS? (y/n) [n]:                     ______
I. What is the IP address of your mail server?:                     ______
J. Is this platform the ORACLE Database Server? (y/n) [n]:          __n___
   (where users accounts will be stored)
K. What is the IP address of your ORACLE Database Server?           ______
L. Is this platform the Sybase Database Server? (y/n) [n]:          __y___
M. Is this platform the EM server? (y/n) [n]:                       __y___
N. Enter the broadcast address of the EM server:                    ______
   (Obtained when building EM server or in
   /etc/inet/networks file on EM server.)
O. What is the IP address of your EM server?:                       ______
P. Is JDISS going to be installed at this site? (y/n) [n]:          ______
Q. Is this platform the JDISS License Manager server? (y/n) [n]:    ______
R. Enter the IP address of your JDISS License Manager:              ______
S. Is AMHS going to be installed at this site? (y/n) [n]:           __y___
T. Is this platform the AMHS server? (y/n) [n]:                     ______
U. Enter the IP address of your AMHS server:                        ______
V. Is this platform going to be a Segment Installation Server?
   (y/n) [n]:                                                       ______
```

9) When the system comes up the standard GCCS globe and log-in prompt will appear.

10) Log in as *root*, using the appropriate password, and execute the following steps:

```
# cd /h/EM/systools<return>
# ./EM_make_server<return>
```

The following output will appear:

```
 35 block
175 blocks
```

11) Log in as *root* and change passwords for *sysadmin* and *secman*:

```
# passwd sysadmin
```

Enter new password.

```
# passwd secman
```

Enter new password.

2.3 The SPARCstation 20 Designated as the GCCS Core Applications Server

2.3.1 Installing Solaris 2.3/SUN OS 5.3 Operating System on the SPARCstation 20 (Designated as GCCS Core Applications Server). The following questions must be answered prior to the installation of the Solaris 2.3/SUN OS Operating System:

```
What is the host name for the host workstation?
(8 characters max)                                    _____
What is its Internet the Protocol (IP) address?       _____
What are the netmasks used on this site LAN?          _____
```

Follow these steps:

1) Insert the Solaris 2.3 CD (May 94 or later) into the system.

2) With the system powered up, press **<STOP> a.**

3) To ensure that the system boots from the correct drive after the operating system is installed, execute the following:

   - At the `ok` prompt type:

     `setenv boot-device disk3`<return>

   This will change the boot disk to the partitioned boot drive used on most SUN SPARCstations. This corresponds to drive c0t3d0. If another drive is used to install the */* and */usr* partitions, the **disk3** value will have to be changed.

4) At the `ok` prompt type:

   `boot cdrom`<return>

5) After approximately 4 minutes, the Solaris OpenWindows logo screen appears, followed by the Solaris Install screen prompting the following questions:

   `Question:  What is the host name for your workstation?`
   Answer: Type the name and press <return>. (Names can be a maximum of eight characters and can consist of letters, digits, or minus signs.)

   `Question:  Will this system be connected to a network?`
   Answer: Use the <Arrow> keys to Select the **`Yes`** option and press <return>.

`Question: What is the primary network interface?`
Answer: Use the <Arrow> keys to select the appropriate interface (on most GCCS-provided servers, it is **`le0`**).

`Question: What is your Internet Protocol (IP) address?`
Answer: Enter the IP address and press <return>.

`Question: Is the following information correct?`
Answer: If you entered the correct information above, use the <Arrow> keys to select **`Yes, continue`** and then press <return>.

`Question: Do you want to configure this system as a client of a name service? If so, which name service do you want to use? If you do not want to use a name service, select "none" and consult your install documentation.`
Answer: Use the <Arrow> keys to select **`None - use/etc Files.`**

6) When prompted, answer the following questions as indicated:

`Question: Does this workstation's network have subnetworks?`
Answer: Use the <Arrow> keys to select **`Yes`** and press <return>. Enter the netmasks used on the site LAN and press <return>.

`Question: Are the naming services and subnetworks correct?`
Answer: If the network information is correct, use the <Arrow> keys to select **`Yes, Continue`** and press <return>.

`Question: What is the geographic region?`
Answer: Use the <Arrow> keys to select the geographic region and press <return>.

`Question: What is the time zone?`
Answer: Use the <Arrow> keys to select the site's time zone and press <return>.

Question: What is the current date and time?
Answer: Use the <Tab> key to move between the fields and to make appropriate changes and press <return>.

`Question: Are the date, time, and time zone correct?`
Answer: If correct, select **`Yes, Continue`** and press <return>.

7) Highlight (**`Custom Install ...`**) on the Solaris Installation screen and press <return>.

8) Highlight (**`System Type ...`**) on the Custom Install Configuration menu and press <return>.

9) Choose **`Standalone`**, tab to **`APPLY`** and press <return>.

10) Select (**`Software Selection ...`**) on the Custom Install Configuration Menu and press <return>.

11) Use the <Tab> key and the <Arrow> key to highlight appropriate software selection on the Default Software Configuration Menu (see notes below). Use the space bar to select it and press <return>. Tab to highlight **`APPLY`** and press <return>.

12) Select **`Entire Distribution`** (not OEM Support).

13) Select **`(Disks/File Systems ... )`** on the Custom Install Configuration Menu and press <return>. The system will list all the disk drives that are currently connected to the system. The SPARCstation disk configuration should match one of the configurations below:

14) Select each drive using the <Arrow> keys and press <return>. Select **`Configure Disk`** and press <return>. The following screen should appear after you select the first drive:

"Disk Editing Properties"

```
Initial Disk Configuration    [*Sun Defaults ]
                              [ Existing Slices ]
                              [ None ]
                              [Redo Current Initial Configuration ]
Size Editing Units:           [*Mbytes ]
                              [ Cylincders ]
                              [ Blocks ]
Allow Overlapping Slices?     [    ] No
Display Start/End Cylinders?  [    ] No
Provide Default Size Hints?   [ *  ] Yes
```

NOTE: If you select "Sun Defaults," then */,/usr/opt*, and *swap* will be listed under the Mount Point column for each drive selected until they are assigned. Selecting "NONE" prevents this, speeding up the process slightly.

Something similar to the following will appear for each disk drive.

```
Configuring File Systems on Disk(c0t3d0) xxx are integers
Slice Mount Point Size(MBs)
0                 0
1                 0
2       backup    0          xxxx (xxx/xxx/xxx)
3                 0
4                 0
5                 0
6                 0
7                 0
```

CAUTION: Do not edit slice 2.

SPARCstation 20 with Two 2.1 GB Drives (GCCS Application Server)

NOTE: Select "5" on *load_patches* script.

Disk	Slice	Mount Point	Size (MBs)	
c0t3d0	s0	/	80MB	
	s1	swap	200MB	
	s3	/sec1	1MB	
	s4	/sec2	1MB	
	s5	/opt	85MB	
	s6	/usr	235MB	
	s7	/h	1424MB	(or whatever disk space remains)
c0t0d0	s0	/home1	1850MB	
	s1	swap	178MB	

15) After all disk drives have been partitioned, select **Done** from the Local Disks & File Systems menu and press <return>.

16) Select **Begin Install** from the Custom Install Configuration Menu and press <return>.

Question: "Ready to start installation, continue?"
Answer: Select **Continue with Install** and press <return>.

This process can take approximately 1 hour to 3 hours depending upon the number of drives being partitioned.

17) The system automatically reboots after the build is complete. After rebooting, a prompt for the root password will appear. Type the desired password and press <return>. The system will ask for verification. Retype the password and press <return>. Once this step is complete, the SUN Solaris Installation and disk partitioning is complete.

NOTE: Only the first eight characters are used for the password.

18) NeWSprint and Answerbook must be installed immediately after the operating system has been installed. If a site attempts to install these packages on an already functioning GCCS system, problems will occur. See the GCCS System Administration Manual, Sections 8 and 23, for installation instructions.

19) Install site-specific drivers, such as FDDI, at this point. (See Section 15.1 of the *GCCS System Administration Manual* for instructions.)

2.3.2 Installing the GCCS COE Kernel on the SPARCstation 20 (Designated as GCCS Core Applications Server). The GCCS COE Kernel tape is divided into two parts. The first part of the tape determines the type and configuration of the system being built, and then extracts the appropriate scripts and Solaris 2.3 patches to build that system. It also sets up the */etc*/*passwd*, */etc*/*shadow*, and */etc*/*group* files upgrade. The second part installs the GCCS accounts (*secman* and *sysadmin*) and the Executive Manager. It completes the network setup of the platform by setting up the */etc*/*defaultrouter*, */etc*/*resolv.conf*, and */etc*/*nsswitch.conf* files. It sets up all system files (services, system, networks, etc.) required for a fully functional GCCS system. In addition, it configures the platform to use mail either as a mail server or client. The */etc*/*hosts* file is also loaded with IP addresses of the database server, EM server, AMHS server, and mail server. This enables a fully functional GCCS suite of systems before the DNS server is active.

Loading Part 1 of the GCCS COE Kernel Tape.

1) Log in as ***root*** and prepare to take the system down to single user mode by entering the following sequence of commands:

```
# init s<return>
```

NOTE: The system will go through the boot process and will return with the following:

```
INIT: SINGLE USER MODE
```

Type **Ctrl-d** to proceed with normal startup
(or give root password for system maintenance): {root password}<return>

2) Load the GCCS Version 2.1 Kernel tape into a tape drive and enter the following:

```
# mount /tmp<return>
```

A. If the tape drive is attached to the system, execute the following:

```
# tar xvf /dev/rmt/ {Enter the tape drive number.} m <return>
```

B. If the tape drive is attached to another SUNstation, execute the following: (The */.rhosts* file on the remote SUN must have the name of the system being built in it.)

```
# rsh {enter remote host's name or IP address} dd if=/dev/rmt/0m bs=20b | tar xvfB -
```

NOTE: The tape will take approximately 2 minutes to load.

---

3) Execute the following steps to load the appropriate Solaris 2.3 patches:

```
# cd /tmp/patch<return>
# ./load_patches<return>
```

4) The *load_patches* script will ask a series of questions to determine which patches should be loaded on the SPARCstation. These questions are:

```
A. SPARC platform?                                              __5___

B. Is this description correct?(y/n) [n]:                       __y___
```

The following questions may appear:

```
C. Is JDISS going to be installed at this site?(y/n) [n]:       ______

D. Is this platform the JDISS License Manager?(y/n) [n]:        ______

E. Enter the IP address of your JDISS License Manager Server:   ______

F. Is AMHS going to be installed at this site?(y/n) [n]:        __y___

G. Is this platform the AMHS Server?(y/n) [n]:                  __n___

H. Enter the IP address of your AMHS Server:                    ______
```

The following questions appear in all cases:

```
I. Is NeWSprint going to be installed on this platform?
   (y/n) [n]:                                                   ______

J. Do you wish to use Answerbook on this system?(y/n) [n]:      ______

K. Will you be using FDDI on this system?(y/n) [n]:             __y___
```

(Drivers must be loaded prior to loading kernel).

5) At the end of the script is a notice stating that the script is about to load the Solaris 2.3 patches, followed by a "continue?" query. Answer **y** and press <return>. The patches will take approximately 40 minutes to load, after which the system will reboot itself.

NOTE: During the reboot, following the *load_patches* script, the following message will appear:

```
! No such user as sysadm - cron entries not created SUN Apr 30
22:30:22 1995
```

The date listed at the end of the above message will reflect the date of script execution. No action is currently required in response to this message.

Loading Part 2 of the GCCS COE Kernel

6) Execute the following to complete the installation of the GCCS COE Kernel:

cd /opt<return>

A. If the tape drive is attached to the system, execute the following:

./kernel_load_local {Enter the tape drive number} <return>

B. If the tape drive is attached to another SUN platform, execute the following:

./kernel_load_remote {Enter remote host's IP address} {Enter the tape drive number}

The remaining portion of the Kernel will now be loaded. This will take approximately 5 minutes.

7) Execute the following steps to complete the installation of the GCCS COE Kernel:

cd /tmp/kernel<return>

./gccs_kernel {Enter the tape drive number}<return>

Note: A number must be specified even if no tape drive is locally attached.

8) The *gccs_kernel* script will ask approximately a dozen questions as shown below. Some questions may not appear if the site's answers vary from the defaults. Answer each question when it appears. At the end of the script, the system will reboot itself.

Some of the questions may not appear, depending upon how the previous question was answered.

```
A. Enter the IP address of the default router for
   the GCCS network:                                                    ______
B. Is DNS being used at your site? (y/n) [y]:                           ______
C. Enter the DNS domain name of your site:                              ______
D. Enter the IP address of your sites primary DNS server:               ______
E. Is the system you are building the primary DNS
   server? (y/n) [n]:                                                   ______

F. Do you wish to load the template DNS tables into /var/nameserver?
   (y/n) [n]:                                                           ______
G. Is DNS server up? (y/n) [n]:                                         ______
H. Is this the mail server for GCCS? (y/n) [n]:                         ______
I. What is the IP address of your mail server?:                         ______
J. Is this platform the ORACLE Database Server? (y/n) [n]:              __n___
   (where users accounts will be stored)
K. What is the IP address of your ORACLE Database Server?               ______
L. Is this platform the Sybase Database Server? (y/n) [n]:              __n___
M. Is this platform the EM server? (y/n) [n]:                           __n___
N. Enter the broadcast address of the EM server:                        ______
   (Obtained when building EM server or in /etc/inet/networks
   file on EM server.)
O. What is the IP address of your EM server?:                           ______
P. Is JDISS going to be installed at this site? (y/n) [n]:              ______
Q. Is this platform the JDISS License Manager server? (y/n) [n]:        ______
R. Enter the IP address of your JDISS License Manager:                  ______
S. Is AMHS going to be installed at this site? (y/n) [n]:               __y___
T. Is this platform the AMHS server? (y/n) [n]:                         ______
U. Enter the IP address of your AMHS server:                            ______
V. Is this platform going to be a Segment Installation Server?
   (y/n) [n]:                                                           ______
```

9) When the system comes up, the standard GCCS globe and log-in prompt will appear.

3.0 SUPPLEMENT: SEGMENT TABLES

This Supplement lists the current set of segments for each GCCS server. The table column headings are:

CK	Check off installed segments as the installation proceeds.	
#	Table row number for each segment, provided to help installer gauge progress.	
Segment Name	Name of segment as it appears when using Segment Installer.	
Prefix	Segment prefix.	
Version	Version of Application or Patch or Segment.	
Functional Group	This column is used to categorize the segments in a logical order.	
Size (KB)	Amount of disk space the segment will occupy when installed.	
Tape	Identifies the tape that the segment is contained on:	
	GCCS Version 2.1 Application Tape 1, Tape 2, etc.	= 2.1 (AP.1, .2, etc.)
	GCCS Version 2.1 Database Tape 1, Tape 2, etc.	= 2.1 (DB.1, 2, etc.)
	GCCS Version 2.1 Update Tape 1, Tape 2, etc.	= 2.1 (UP.1, .2, etc.)
TTL	Time To Load - approximate amount of time required to install the segment. Operator interaction may be required during this time.	
Notes	Important information to know before loading the segment or after loading the segment.	

NOTE: After loading Segments 1-5 in Table 3-1, the sequence of installation is entirely up to the installer. However, the installer should always check the <required> field on the SAInstaller tool in order to know what segments are a prerequisite for another segment.

Table 3-1. Segments for the SPARC 1000/2000 Database Server

CK	#	Segment Name	Prefix	Version	Functional Group	Size	Tape	TTL	Notes
	1	GCCS COE	GCCS	2.1.0.2	Core	1576	2.1 (DB.1)	10	Must be loaded first. May have to use disk override on upgraded system. GCCS COE segment includes two segments: UB COE and JMCIS COE.
	2	GCCS 2.1.0.2 Patch	GCCS P1	1.0.0	Core	7444	2.1 (DB.1)	10	Load after GCCS COE.
	3	GCCS 2.1.0.2 Patch 2	GCCS P2	1.0.0.01	Core	100	2.1 (UP.1)	5	Load after GCCS P1.
	4	GCCS 2.1.0.2 Patch 3	GCCS P3	1.0.1	Core	100	2.1 (UP.4)	5	Load after GCCS P2.
	5	GCCS 2.1.0.2 Patch 4	GCCS P4	1.0.1.02	Core	100	2.1 (UP.4)	5	Load after GCCS P3.
	6	EM V2.1 Upgrade	EM_ Upgrade	2.1.6	Core	88855	2.1 (UP.1)	30	Install on all systems. Reboot after installing.
	7	EM Group Patch		1.0	Core	3191	2.1 (UP.3)	10	
	8	EM ST&E Patch	EM_STE PATCH	1.0	Core	13158	2.1 (UP.4)	15	Load after EM upgrade.
	9	EM Printer Admin	EM_Printer	2.1.5	Core	261	2.1 (DB.1)	10	Requires all of above.
	10	ORACLE Memory Config	ORASYS	7.1.3	ORACLE	13	2.1 (DB.1)		
	11	ORACLE Applications Server Tools	ORACLE	7.1.4	ORACLE	454615	2.1 (UP.2)		Requires ORACLE Memory Config.
	12	ORACLE RDBMS	RDBMS	7.1.4	ORACLE	181912	2.1 (DB.1)	25	Install after ORACLE Tools.
	13	ORACLE Patch 2	ORAP2	2.0	ORACLE	224	2.1 (UP.2)	10	Install after RDBMS, before reboot.
	14	ORACLE Patch 3	ORAP3	3.0	ORACLE	180	2.1 (UP.4)	5	Install after ORACLE Patch 2.
	15	GSORTS ORACLE SERVER	GORA/ GUPD	1.1.01	GSORTS	474	2.1 (DB.1)	30	Must be installed before SMDB.
	16	S&M ORACLE Database Segment	SMDB	4.2	JOPES	1809	2.1 (DB.1)	50	Requires GSORTS ORACLE server.
	17	S&M Database Patch Segment 1	SMDBP1	5.0	JOPES	667	2.1 (DB.1)	15	Ignore xterm about populated DB.
	18	S&M Database Patch Segment 2	SMDBP2	5.0.1	JOPES	18	2.1 (UP.1)	5	Install After SMDBP1.

Table 3-1. Segment for the SPARC 1000/2000 Database Server (Cont'd)

CK	#	Segment Name	Prefix	Version	Functional Group	Size	Tape	TTL	Notes
	19	S&M Database Patch Segment 3	SMDBP3	5.1	JOPES	79	2.1 (UP.3)	10	Install after SMDB P2.
	20	CFSPDB	CFSPDB	1.1	JOPES	37	2.1 (UP.4)	10	
	21	DART Server	DART	2.0.02	JOPES	200498	2.1 (DB.1)	40	
	22	ESI Flat File Allocate	ESISRV	1.1	JOPES	38	2.1 (DB.1)	20	
	23	Information Management System/Reference File Manager	IMS_RFM	3.3	JOPES	67057	2.1 (DB.1)	30	Require Solaris Patch 101610-O5.
	24	IMS/RFM Patch Segment 1	IMS_PL	5.0	JOPES	5847	2.1 (DB.1)	10	Load after IMS_RFM.
	25	IMS/RFM Patch Segment 2	IMS_P2	5.0.3	JOPES	11	2.1 (UP.1)	5	Load after IMS_P1.
	26	IMS/RFM Patch Segment 4	IMS_P4	5.2	JOPES	1071	2.1 (UP.4)	10	
	27	JOPES_ ORA_ PDRPT	JOPES_ ORA_ PDRPT	1.3.1	JOPES	91	2.1 (UP.4)	20	
	28	MEPES ORACLE Database Segment	MEPESDB	5.0.1	JOPES	36237	2.1 (DB.2)	20	
	29	MEPES ORACLE Database Segment Patch 2	MEPDBP2	5.0.1	JOPES	34	2.1 (UP.1)	10	
	30	JEPES ORACLE Server	OJEPES	4.00.02	JOPES	21	2.1 (DB.1)		
	31	LOGSAFE DB Server	OLSAFE	2.1.01	JOPES	161	2.1 (DB.1)		
	32	Predefined Rpts DB Server	PDRSRV	1.0.01	JOPES	93	2.1 (DB.1)	20	Requires RDASRV.
	33	RDA Server	RDASRV	1.3.01	JOPES	867	2.1 (DB.1)	20	
	34	RDA Server Patch 2	RDASP2	1.0	JOPES		2.1 (UP.2)	15	Install only on RDA 1.0.9.
	35	RDA Server Patch 3		1.7.3	JOPES	1851	2.1 (UP.3)		Install after RDA Server P2.
	36	Remote Install	RemoteInst	1.1.1	JOPES	2068	2.1 (UP.3)	10	
	37	RFA Database	RFADB	1.1.01	JOPES	21582	2.1 (DB.2)		Install only at NMCC.

Table 3-1. Segment for the SPARC 1000/2000 Database Server (Cont'd)

CK	#	Segment Name	Prefix	Version	Functional Group	Size	Tape	TTL	Notes
	38	GSORTS WORLD DATA	GWORLD	1.2	GSORTS	808363	2.1 (DB.1)	60	Install on all local DB Servers.
	39	Scheduling and Movement Applications	S&M	4.2	JOPES	690154	2.1 (DB.1)		Requires ORACLE Tools.
	40	S&M Patch 2a	SMP2a	5.0.2	JOPES	112201	2.1 (UP.1)	30	Requires S&M.
	41	S&M Patch 2b	SMP2b	5.0.2	JOPES	116132	2.1 (UP.1)	30	Requires S&M2a.
	42	S&M Patch 2c	2MP2c	5.0.2	JOPES	94443	2.1 (UP.1)	30	Requires S&M2b.
	43	S&M Patch 2d	SMP2d	5.0.2	JOPES	95539	2.1 (UP.1)	30	Requires S&M2c.
	44	S&M Patch 2e	SMP2e	5.0.2	JOPES	39378	2.1 (UP.1)	20	Requires S&M2d.
	45	S&M Patch 3a	SMP3a	5.1	JOPES	110254	2.1 (UP.3)		
	46	S&M Patch 3b	SMP3b	5.1	JOPES	147369	2.1 (UP.3)		
	47	S&M Patch 3c	SMP3c	5.1	JOPES	100617	2.1 (UP.3)		
	48	S&M Patch 3d	SMP3d	5.1	JOPES	99585	2.1 (UP.3)		
	49	S&M Patch 3e	SMP3e	5.1	JOPES	109442	2.1 (UP.3)		
	50	S&M Patch 4	SMP4	5.1.1	JOPES	42470	2.1 (UP.3)		
	51	Air Field DB Server	AIRFDB	1.0.03	JOPES	3569	2.1 (UP.4)	30	
	52	Auditing	BSM	2.1.1		70	2.1 (DB.1)		
	53	BSM Patch	BSMPATCH	1.1.01		71	2.1 (UP.4)	5	
	54	SMINT Database	SMIDB	1.0	JOPES	10298	2.1 (DB.1)		Install only at TRANSCOM.
	55	XCLOCK ICON	XLOCK	1.0	SCREEN SAVER	21	2.1 (DB.1)		
	56	UNIX Systems MGMT Agent	EMPIRE	1.35.03	Network MGMT	339	2.1 (UP.4)	15	Install on all servers.

Table 3-1. Segment for the SPARC 1000/2000 Database Server (Cont'd)

CK	#	Segment Name	Prefix	Version	Functional Group	Size	Tape	TTL	Notes
	57	LEGENT DB Agent/ System Manager Agent	LEGENT	2.20.02	Network MGMT	32200	2.1 (UP.4)	15	Install, but do not run until license is published. Install only on DB and EM servers.
	58	NETM Memory Config	NETSYS	1.0.04	Network MGMT	26	2.1 (UP.4)		One machine per LAN segment.
	59	Network Monitoring Agent	NETM	4.5.03	Network MGMT	26820	2.1 (UP.4)	5	One machine per LAN segment.
	60	UPSI Power Monitor	UPSI	1.3.6	Network MGMT	441	2.1 (DB.1)		Requires UPSI hardware.

Table 3-2. Segments for SPARC20 GCCS Core Application Server

CK	#	Segment Name	Prefix	Version	Function	Size	Tape	TTL	Notes
	1	GCCS COE	GCCS	2.1.0.2	CORE	1576	2.1 (AP.1)	10	Must be loaded first. JMCIS COE & UB core loaded with this segment.
	2	GCCS 2.1.0.2 Patch 1	GCCS P1	1.0.0	CORE	7444	2.1 (AP.1)	10	Load after GCCS COE.
	3	GCCS 2.1.0.2 Patch 2	GCCS P2	1.0.0.01	CORE	100	2.1 (UP.1)	5	Load after GCCS P1.
	4	GCCS 2.1.0.2 Patch 3	GCCS P3	1.0.1	CORE	100	2.1 (UP.4)	5	mDX Patch.
	5	GCCS 2.1.0.2 Patch 4	GCCS P4	1.0.1.02	CORE	100	2.1 (UP.4)	5	Load after GCCS P1 & P2.
	6	EM V2.1 Upgrade	EM_ UPGRADE	2.1.6	CORE	88855	2.1 (UP.1)	15	Install on all Systems.
	7	EM Printer Admin	EM_ PRINTER	2.1.5	CORE	261	2.1 (UP.1)	10	Load after GCCS P2.
	8	EM Group Patch		1.0	CORE	3191	2.1 (UP.3)	10	
	9	EM ST&E Patch		1.0	CORE	13156	2.1 (UP.4)	15	Load after EM_Upgrade.
	10	ORACLE Application Server Tools	ORACLE	7.1.4		454615	2.1 (AP.1)	40	
	11	ORACLE Patch 2	ORAP2	2.0		224	2.1 (UP.2)	10	Install after ORACLE.
	12	ORACLE Patch 3	ORAP3	3.0		180	2.1 (UP.4)	5	Install after ORP2.
	13	CFSPDR	CFSPDR	1.0		28487	2.1 (UP.1)	25	
	14	DART Client	DARTC	2.0.01	JOPES	25	2.1 (AP.1)	5	
	15	GSORTS Map/Retrieval	GSORTS	1.2	GSORTS	23985	2.1 (AP.1)	20	Requires ORACLE Tools.
	16	GSORTS.P1	GSORTS P1	1.2.1		9753	2.1 (UP.3)	10	
	17	GSORTS Client	GSORTSC	1.2	GSORTS	76	2.1 (AP.1)	5	
	18	IMS-JES-RFM TIP Application Client	IMS_RFM_ CL	2.0.8	JOPES	37	2.1 (UP.4)	5	
	19	JEPES Client	JEPES	4.01	JOPES	25779	2.1 (AP.1)	12	Requires ORACLE Tools.
	20	JOPES Navigation	JNAV	2.4.01	JOPES	3167	2.1 (UP.4)	12	Requires Mosaic or WEBBr.
	21	JOPES Navigation Server	JNAVSV	2.4	JOPES	4018	2.1 (UP.4)	20	Requires HTTPD or WEBSv.

Table 3-2. Segments for SPARC20 GCCS Core Application Server (Cont'd)

CK	#	Segment Name	Prefix	Version	Function	Size	Tape	TTL	Notes
	22	JOPES_PDRPT	JOPES_ PDRPT	1.3	JOPES	11733	2.1 (UP.4)	15	
	23	LOGSAFE Client	LSAFE	2.2.01	JOPES	16089	2.1 (AP.1)	15	
	24	Medical Planning and Execution	MEPES	4.1.1.01	JOPES	68115	2.1 (AP.1)	18	
	25	Medical Planning and Execution Patch 1	MEPESP1	5.0	JOPES	243	2.1 (AP.1)	12	
	26	Predefined Reports	PDR	1.2.01	JOPES	66573	2.1 (AP.1)	20	ORACLE Tools, XTP, and JNAV\ required.
	27	Reqs Dev & Analysis RDA	RDA	1.7.1.01	JOPES	59651	2.1 (UP.2)	10	ORACLE Tools, XTP, and JNAV required.
	28	RDA Patch 1		1.7.3.0		39635	2.1 (UP.3)	20	
	29	Reference File Admin	RFA	1.2.2		123107	2.1 (AP.1)	18	Load only at NMCC.
	30	Remote Install	RemoteInst	1.1.1		2068	2.1 (UP.3)	15	
	31	Run_Remote	RREM	1.3.02		33	2.1 (UP.1)	10	
	32	Scheduling and Movement	S&M	4.2	JOPES	674630	2.1 (AP.1)	50	ORACLE Tools Required.
	33	S&M Patch 2a	SMP2a	5.0.2	JOPES	112201	2.1 (UP.1)	30	Requires S&M.
	34	S&M Patch 2b	SMP2b	5.0.2	JOPES	116132	2.1 (UP.1)	30	Requires S&M2a.
	35	S&M Patch 2c	SMP2c	5.0.2	JOPES	94413	2.1 (UP.1)	30	Requires S&M2b.
	36	S&M Patch 2d	SMP2d	5.0.2	JOPES	95539	2.1 (UP.1)	30	Requires S&M2c.
	37	S&M Patch 2e	SMP2e	5.0.2	JOPES	39378	2.1 (UP.1)	20	Requires S&M2d.
	38	S&M Patch 3a	SMP3a	5.1	JOPES	110254	2.1 (UP.3)		
	39	S&M Patch 3b	SMP3b	5.1	JOPES	147369	2.1(WP.3)		
	40	S&M Patch 3c	SMP3c	5.1	JOPES	108617	2.1 (UP.3)		
	41	S&M Patch 3d	SMP3d	5.1	JOPES	99585	2.1 (UP.3)		
	42	S&M Patch 3e	SMP3e	5.1	JOPES	109442	2.1 (UP.3)		
	43	S&M Patch 4	SMP4	5.1.1	JOPES	42470	2.1 (UP.3)		
	44	Scheduling and Movement Client	SMC	5	JOPES	49	2.1 (AP.1)	5	Load on platform without S&M.
	45	TCC Extrnl Sys Intrfcs	TCCESI	1.1.01		23503	2.1 (AP.1)		

Table 3-2. Segments for SPARC20 GCCS Core Application Server (Cont'd)

CK	#	Segment Name	Prefix	Version	Function	Size	Tape	TTL	Notes
	46	External Transaction Processor	XTP	5.1.1		8150	2.1 (UP.3)	15	Required by RDA.
	47	VIP	VIP	1.0.0		508	2.1 (UP.4)	10	
Teleconferencing Segments									
	48	HTTPD HMTL Server	HTTPD	1.4.2/ 1.1	Teleconf.	1361	2.1 (UP.3)	5	
	49	Internet Relay Chat Clients	IRCC	1.15.T/ 1.1	Teleconf.	6716	2.1 (AP.1)	15	
	50	IRC Client Patch 1	IRCP1	1.0		22	2.1 (UP.3)	5	
	51	Internet Relay Chat Server	IRCS	2.8.21/ 1.1	Teleconf.	2691	2.1 (AP.2)	20	
	52	MOSAIC HTML Brower	MOSAIC	2.4	Teleconf.	3420	2.1 (AP.1)	15	
	53	Netscape Web Browser	WEBBR	1.1	Teleconf.	6888	2.1 (AP.1)	10	
	54	PERL	PERL	5.001	Teleconf.	2292	2.1 (AP.1)	10	
	55	XWindows-based News Client	NEWSCI	7.03/1.0	Teleconf.	2170	2.1 (UP.1)	20	Requires NEWSCI.P1.
	56	XWindows-based News Client Patch	NEWSCI.P1	1.0	Teleconf.	20	2.1 (UP.1)	10	
	57	Text News Client	NEWSCO	1.22/1.0	Teleconf.	1476	2.1 (AP.1)	10	
	58	Internet NEWS Server	NEWSS	1NN.1.4/1. 0	Teleconf.	7193	2.1 (AP.1)	10	Requires PERL.
	59	Internet NEWS Server Patch 1	NEWSS P1	1.0	Teleconf.	651	2.1 (UP.3)	10	
	60	Web Page Generator	WEBPg	1.0	Teleconf.	60	2.1 (AP.1)	10	Requires PERL.
	61	Netsite Web Server	WEBSv	1.0/1.1	Teleconf.	11859	2.1 (AP.1)	30	Requires Netsite License.

Table 3-3. Segments for the SPARC 20 Mission Application Server

CK	#	Segment Name	Prefix	Version	Function	Size	Tape	TTL	Notes
	1	GCCS COE	GCCS	2.1.02	CORE	1576	2.1 (AP.1)	10	Must be loaded first. JMCIS COE & UB core loaded with this segment.
	2	GCCS 2.1.0.2 Patch	GCCS P1	1.0.0	CORE	7444	2.1 (AP.1)	10	Load after GCCS COE.
	3	GCCS 2.1.0.2 Patch 2	GCCS P2	1.0.0.01	CORE	100	2.1 (AP.1)	5	Load after GCCS P1.
	4	GCCS 2.1.0.2 Patch 3	GCCS P3	1.0.1	CORE	100	2.1 (UP.4)	5	Mdx patch.
	5	GCCS 2.1.0.2 Patch 4	GCCS P4	1.0.1.02	CORE	100	2.1 (UP.4)	5	
	6	EM V2.1 Upgrade	EM_UPGRADE	2.1.6	CORE	88855	2.1 (UP.1)	15	Install on all Systems.
	7	EM Printer Admin	EM_PRINTER	2.1.5	CORE	261	2.1 (UP.1)	10	Load after GCCS P2.
	8	EM Group Patch		1.0	CORE	3191	2.1 (UP.3)	10	
	9	EM ST&E Patch		1.0	CORE	13156	2.0 (UP.4)	15	Load after EM_Upgrade.
	10	ORACLE Application Server Tools	ORACLE	7.1.4		509240	2.1 (AP.1)	40	
	11	ORACLE Patch 2	ORAP2	2.0		224	2.1 (UP.2)	10	Install after ORACLE.
	12	ORACLE Patch 3	ORAP3	3.0		180	2.1 (UP.4)	40	Install after ORACLE Patch 2.
	13	CFSPDR	CFSPDR	1.0		28487	2.1 (UP.1)	25	
	14	Applix	APPLIX	3.2		92379	2.1 (AP.1)	35	Must be loaded before CCAPPS.
	15	SYBASE	SYBASE	1.0.0.2.a		156557	2.1 (AP.2)	30	Only loaded on Sybase Server.
	16	SYBASE Server Upgrade	SYBASE_UPGRADE	1.0.1		28	2.1 (UP.1)	10	Must be installed on Sybase Server after Sybase is configured.
	17	UPSI PowerMonitor	UPSI	1.3.b	Network MGMT	441	2.1 (DB.1)		

Table 3-3. Segments for the SPARC 20 Mission Application Server (Cont'd)

CK	#	Segment Name	Prefix	Version	Function	Size	Tape	TTL	Notes
(The remaining segments may be loaded at the user's discretion.) Mission Application Segments									
	18	CCAPPS Overload Patch	CCAPPS_ UPGRADE	1.0		15	2.1 (AP.2)	7	Only load on GCCS 2.0 Systems.
	19	Cmd Ctr Apps	CCAPPS	2.1.5		95927	2.1 (UP.1)	30	Requires Applix.
	20	CCAPPS MM Patch		1.1		11710	2.1 (UP.3)	20	
	21	CCAPPS ORACLE Patch	CCAPPS_ ORACLE Patch	1.0		28030	2.1 (UP.4)	25	
	22	AirFields	AirFields	1.0.4		998	2.1 (UP.1)	20	
	23	Auditing	BSM	2.1.1		70	2.1 (UP.4)	15	
	24	BSM Patch		1.1		71	2.1 (UP.4)	15	Requires Auditing.
	25	EVAC Client	EVAC	1.1		24147	2.1 (AP.2)		
	26	EVACDB Server Segment	EVACDB	1.1		640	2.1 (AP.2)	20	Load only at NMCC.
	27	FRAS SUPPORT	FRAS	1.1		68	2.1 (AP.2)		Requires ORACLE Tools.
	28	GCCS ATO Review Capability	GARC	1.0.1		5567	2.1 (UP.4)	10	
	29	GCCS ftptool	FTP	4.3		350	2.1 (AP.2)	15	
	30	Global Reconnaissance Information System Core	GRIS	2.2.6		52633	2.1 (UP.3)		
	31	GRIS Patch 1	GRIS P.1	1.0		13	2.1 (UP.4)	5	Must be installed before GRIS is de-installed.
	32	GTN	GTN	2.3.1		28	2.1 (AP.2)	10	Load only at TRANSCOM.
	33	ICON FOR APPLIX	IAPLIX	1.0		21	2.1 (AP.2)	5	
	34	JDISS Server	JDISS	2.0.2		352751	2.1 (AP.2)	50	Only loaded on machine designated as License Manager.
	35	JDISS Client	JDISC	2.0.3		20311	2.1 (UP.3)		Do not load on JDISS License Manager.
	36	Printer	Printer	2.1.1		3836	2.1 (AP.1)	15	Must be loaded before JMCISAPPS/ UBAAPS.
	37	Joint Mapping Toolkit	JMTK	2.1.3	JMCIS	47369	2.1 (AP.1)	30	Must be loaded before JMCISAPPS/ UBAAPS.

Table 3-3. Segments for the SPARC 20 Mission Application Server (Cont'd)

CK	#	Segment Name	Prefix	Version	Function	Size	Tape	TTL	Notes
	38	JMTK 2.1.3 Patch	JMTKP1	1.0.0	JMCIS	7198	2.1 (AP.1)	10	Load after JMTK.
	39	Reserve Unit Deployment Requirements System	RUDRS	2.0.2		31781	2.1 (AP.2)		
	40	SMI_INTERFACE	SMINT	1.0		7713	2.1 (AP.2)	15	Install only at TRANSCOM.
	41	SYBASE	SYBASE	10.0.2.a		156557	2.1 (AP.2)	30	Only loaded on Sybase Server.
	42	SYBASE Server Upgrade	SYBASE_ UPGRADE	1.0.1		28	2.1 (UP.1)	10	Must be installed on Sybase Server after Sybase is configured.
	43	WABI	WABI	2.0		14498	2.1 (UP.3)	10	Requires MS Windows 3.1.
	44	Target Multimedia Tool	TARGET	2.1.07		367769	2.1 (UP.4)	50	
	45	AMHS Release Patch		1.1	AMHS	1686	2.1 (UP.4)	5	
	46	COTS Topic	Topic	3.1.5.c	AMHS	80938	2.1 (AP.2)	30	Must be loaded before AMHS server or client.
	47	AMHS Client	AMHS_CLT	2.1.4	AMHS	3297	2.1 (UP.1)	10	
	48	AMHS Server	AMHS_SRV	2.1.4	AMHS	11155	2.1 (UP.1)	20	Only loaded on AMHS server.
	49	AMHS Server Upgrade	AMHS_UP DATE	1.0.1	AMHS	1044	2.1 (UP.1)	5	For upgrading GCCS 2.0 systems to 2.1 only.
	50	JMCIS Applications	JMCISApps	2.2.0.2.G	JMCIS	28272	2.1 (AP.1)		Load only if running JMCIS.
	51	JMCIS Apps 2.1.3	JMCISappsp 1	1.0.0	JMCIS	19551	2.1 (AP.1)	20	
	52	UB Applications	UBAPPS	2.2.0.2.G	JMCIS	71985	2.1 (AP.1)	40	Load only if running JMCIS.
	53	UBApps 2.1.3 Patch	UBAPPSp1	1.0.0	JMCIS	30575	2.1 (AP.1)	20	
	54	XLOCK ICON	XLOCK	1.0		21	2.1 (AP.2)	10	Used as a screen saver.
	55	UNIX Systems MGMT Agent	EMPIRE	1.3/5-01	Network Mgmt	401	2.1 (AP.2)	15	Load on all servers.
	56	NETM Memory Config	NETSYS	1.0.02	Network Mgmt	18	2.1 (UP.1)	5	Load on one Server per LAN segment.
	57	Network Monitoring Agent	NETM	4.5.02	Network Mgmt	26819	2.1 (UP.1)	5	

Table 3-3. Segments for the SPARC 20 Mission Application Server (Cont'd)

CK	#	Segment Name	Prefix	Version	Function	Size	Tape	TTL	Notes
	58	UPSI PowerMonitor	UPSI	1.3.b	Network Mgmt	441	2.1 (AP.2)		
	59	EM Remote Access Patch		1.0	Remote Connectivity	38490	2.1 (UP.4)	30	
	60	Remote Printing		1.0	Remote Connectivity	38	2.1 (UP.4)	5	
	61	Remote Access		1.2	Remote Connectivity		2.1 (UP.4)	20	
	62	Character Based Interface		1.0.0.1	Character Based	172	2.1 (UP.4)	10	
	63	Character VIP		1.0.0	Character Based	24	2.1 (UP.4)	5	VIP must be installed.
	64	S&M Patch 7		5.2.3	Character Based	52	2.1 (UP.4)	5	
	65	Txt Desktop IRC Client		2.8.21/1.1	Character Based	330	2.1 (UP.4)	10	
	66	Txt Desktop News Client		1.22/1.0	Character Based	1473	2.1 (UP.4)	15	

Table 3-4. Segments for the SPARC 20 AMHS #1 and AMHS #2 Servers

CK	#	Segment Name	Prefix	Version	Function	Size	Tape	TTL	Notes
	1	GCCS COE	GCCS	2.1.0.2	CORE	1576	2.1 (AP.1)	10	Must be loaded first. JMCIS COE & UB core loaded with this segment.
	2	GCCS 2.1.0.2 Patch	GCCS P1	1.0.0	CORE	7444	2.1 (AP.1)	10	Load after GCCS COE.
	3	GCCS 2.1.0.2 Patch 2	GCCS P2	1.0.0.01	CORE	100	2.1 (AP.1)	5	Load after GCCS P1.
	4	GCCS 2.1.0.2 Patch 3	GCCS P3	1.0.1	CORE	100	2.1 (UP.4)		
	5	GCCS 2.1.0.2 Patch 4	GCCS P4	1.0.1.02	CORE	100	2.1 (UP.4)		
	6	EM V2.1 Upgrade	EM_UPGRADE	2.1.6	CORE	88855	2.1 (AP.1)	15	Install on all Systems.
	7	EM Printer Admin	EM_PRINTER	2.1.5	CORE	261	2.1 (UP.1)	10	Load after GCCS P2.
	8	EM Group Patch		1.0		3191	2.1 (UP.3)	10	
	9	EM ST&E Patch		1.0		13156	2.1 (UP.4)	15	
	10	AMHS Release Patch		1.1	AMHS	1686	2.1 (UP.4)	5	
	11	COTS Topic	Topic	3.1.5.c	AMHS	80938	2.1 (AP.2)	30	Must be loaded before AMHS server or client.
	12	AMHS Client	AMHS_CLT	2.1.4	AMHS	3297	2.1 (UP.1)	10	
	13	AMHS Server	AMHS_SRV	2.1.4	AMHS	11155	2.1 (UP.1)	20	Only loaded on AMHS server.
	14	AMHS Server Upgrade	AMHS_UPDATE	1.0.0	AMHS	1044	2.1 (UP.1)	5	
	15	CCAPPS MM Patch		1.1		11710	2.1 (UP.3)	20	